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AUTHOR Gwin, Stanford P.: Downey, Jennifer
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ABSTRACT

A pilot program was begun at the University of Southern Mississippi to measure the effect of a concentrated period of linguistic and communication skill development at the beginning of college for high risk students. The experiment was designed to follow an experimental group drawn carefully from the 15% of college freshmen with the lowest scores on the American College Test. The sample was carefully balanced to match both a typical statewide population and a control group that did not receive the treatment. While the complete data will not be available until the graduation of the students, after one year all the experimental students were still in school and showed improvement in grades, as well as in their writing, speaking, and reading abilities. They also experienced great growth in personal confidence and grade expectation. As a result of the pilot program's success, two more years of larger experimental samples were funded. As the work proceeds, it becomes clear that strong training in speech communication skills, especially when organized into the first year of college, greatly improves the academic prospects of the high risk student. (Author/RL)

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THE EFFECTS OF COMMUNICATION SKILL TRAINING ON HIGH RISK COLLEGE STUDENTS

by

Stanford P. Gwin, Professor of Speech Communication
University of Southern Mississippi
Box 9305, Southern Station
Hattiesburg, Mississippi 39401
Phone: (601) 266-7198

and

Jennifer Downey
Research Assistant

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Stanford P. Gwin

Jennifer Downey

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THE EFFECTS OF COMMUNICATION SKILL TRAINING
ON HIGH RISK COLLEGE STUDENTS

abstract

Institutions of higher education in the United States are increasingly reaching among those disadvantaged students not normally thought of as "college material" as a means of increasing enrollments. These "high risk" students do not normally do well in college. One of the reasons appears to be ineptitude with the necessary Standard English language of classroom and textbook.

Project Access at the University of Southern Mississippi, with funding support from the Fund for the Improvement of Postsecondary Education, has created a pilot program to measure the effect of a concentrated period of linguistic and communication skill development at the beginning of college.

The experiment is laid out to follow an experimental group drawn carefully from the lower fifteen percent of the American College Test scores in the entering freshman class in the fall of 1977. The sample is carefully balanced to match a typical state-wide freshman population racially and sexually. These students were matched to an identically drawn control group that did not receive the treatment.

While complete data awaits graduation of that class, all of the experimental subjects are still in school with better grades and they write, speak, and read better than the control group. They have also experienced great growth in personal confidence and grade expectation.

As a result of the pilot's success, two more years of larger experimental samples were funded in a separate award by the Fund for the Improvement of Postsecondary Education. As the work proceeds the message becomes clearer that strong training in Speech Communication in conjunction with the rest of the communication skill training, organized into the first year of college greatly improves the academic prospects of the "high risk" student.

The Effects of Communication Skill Training
on High Risk College Students

As the percentages of high school graduates going on to higher education increases, institutions have been required to include larger numbers of students who have not previously been considered college prospects. Many of these students come from culturally and educationally disadvantaged populations. Frank Reissman indicated that these students were also disadvantaged linguistically:

> But the quality of their language has its limitations, and herein, I think, lies the deficit. As Basil Bernstein indicates, the difference is between formal language and public language, between the langugage of a written book and the informal everyday language. There is no question in my mind that disadvantaged children are deficient in formal language.[1]

Educational success depends heavily upon ability to communicate in the language in which textbooks must be written, the recorded culture of humanity has been collected, and in which professors lecture. Consequently, these new students present a whole new set of challenges and opportunities for Speech Communication professionals.

To date, attempts to develop Standard English skills in disadvantaged students to give them access to higher education have largely failed. The oral traditions in Standard English, from which students who are not disadvantaged benefit, cannot be easily replicated. Even the serious attempts to combine oral and written language training, such as the C-e program at the University of Florida and the language arts orientation program at several midwestern universities failed and were abandoned. All of these programs

as well as programs like North Carolina's summer semester and California's Educational Attack Program seem to help students with basic scientific and mathematical skills. They have not successfully improved Communication skills, and more importantly, did not lower attrition rates for disadvantaged participants.[2] The next step is clearly a tough minded attack on oral Standard English skill in a drill oriented environment.

In the fall of 1977-78, with financial support from The Fund for Improvement of Postsecondary Education, the Speech Communication Department of the University of Southern Mississippi began a pilot program to attempt to improve the college prospects of a small group of high risk students. As a result of apparent early success in that pilot, the project was refunded for two more years with experimental groups of up to seventy-five students. The project will not be concluded until the third group graduates in 1983, but the early results in reducing first and second year attrition, improving grades, and strengthening critical communication skills have been fairly dramatic.

This paper will report results of the program called Project Access, to date (at the time of this writing, these are pilot year results; by the time the paper is read, data will be included from the first refunded year of the project also). The training in the project is a combined output of the Speech Communication, Theater Arts, Reading, and English Departments. The training is unique from most college curriculums in that the freshman receives a battery of communication skills courses all together at the beginning of his college career. But, the real difference between Project Access and all of the other programs designed to help disadvantaged students is the concentration of oral and personal skills instruction focused on the student through the Department of Speech Communication and the oral

reading training done in Theater Arts.

The paper will report how the sample was drawn for the first experiment, how the training is conducted, the expected outcomes of the project, and the results that can be measured to date.

Drawing the Sample

In 1977, Dr. Sidney Weatherford, Director of the Bureau of Institutional Research at the University of Southern Mississippi reported.

> The pool of potential students of the University is comprised of a large number of people who have substantial educational deficiencies, many of which are attributable to weaknesses in language and communication skills. This is evidenced by the fact that the mean scores on the American College Test . . . were English, 16.1; mathematics, 14.2; social studies, 14.3; natural science, 18.2; composite, 15.8. These means are several points below national means. . . . a sizeable number of those who never enter. . . could profit from higher education if these deficiencies could be ameliorated.[4]

Dr. Weatherford continued to report that among ACT scores "under Twenty" attrition rates were greater than fifty percent before graduation and as great as thirty-five to forty percent by the end of the first year. He also pointed out that where English subscores were significantly higher than the composite attrition rates declined.[5] Since the project does not propose to deal with the special problems of the economically disadvantaged but only with linguistically disadvantaged, the sample was drawn from this high risk population.

The experimental sample and an identical control group contained twenty-four students each with ACT scores ranging from 15 to 19. Those scores placed them in the lower fifteen percent of the University's regular admission freshman profile. The students admitted below ACT 15 were exceptions to regular policy and were excluded from the first sample. Twelve in the sample had scores from 15-17 and twelve from 18-19. Half of the sample was male

and half female. Nine of the students were black and fifteen were white. The male-female and black-white stratifications imitated statewide freshman populations in Mississippi. Those balances are replicated as closely as possible throughout the ACT profile with care taken to make the stratifications identical from the top to the bottom halves. Students with higher English subscores than their composites were also excluded. Selections were made by grouping the freshman class according to the criteria described above and then applying the appropriate table from the Rand Book of Random Numbers to each grouping to make the choices and select alternates. When the experimental sample was complete, random number acquisition was continued until an identical control group was completed.

Each of the experimental subjects was interviewed at home and by telephone and invited to participate by the project director. Control group members were approached by the consultants employed to handle the pre- and post-testing so that they were not polluted by contact with those involved in the instruction of the experimental group. Both samples were to be tested equally and followed throughout their college careers. Only the experimental group would receive concentrated communication skill training.

Conduct of the Training Program

The course of instruction in Project Access attempted to address speaking and writing problems that were characteristic of the high risk population as thoroughly as possible. To be thorough and to be consistent from year to year, a model was needed to set communication skill development in a proper order. The model developed for simultaneous instruction is speaking and writing contains four developmental steps:[5]

THINKING (cognitive and affective behavior)
*
EXPRESSION (verbalization that is normally oral and nonverbal cueing)
*
DISCIPLINE (using the rules of good practice for formal speaking and writing)
*
ART (fully formed expressions effectively combining all the skills)

All students require an opportunity to develop orderly processes of thought and the spontaneous expression that comes from it. Discipline, or instruction in the use of the tools of writing and speaking, should be developed to the level of the student's need. The art of speaking and writing with power may need development only for those students who require it. College students require it. In any case, invention cannot be taught effectively while one teaches formal writing or speaking skills. Instruction must occur in the order presented in the model for the skills necessary to be clearly understood by the student. Project Access also discovered that invention can be better taught in the speech class than in the writing class because the speech teacher is closer to the problems the student has to overcome. The technique of sentence combining with its oral and written drills to teach writing facilitates the crossover more effectively than more traditional forms of instruction.

Coordination and crossover application of skill learning in different courses is a significant feature of the project. Individual components of instruction however, occurred in nine primary forms:

1. Standard English writing skills were taught in a laboratory format utilizing sentence combining as a means of improving student writing without formal instruction in grammar. Sentence combining focuses on oral language skills to teach writing.[6] (O'Hare, 1972) The direct objective of this portion of the instruction was to raise the group mean ACT English subscore to 21.

2. Standard English voice and diction were to be drilled using a laboratory technique and available self-teaching materials in the International Phonetic Alphabet. To standardize lang-

Project Access Grades and Attrition Comparison

Pilot Group

N = 24	End of Training		End of Freshman Year		End of Sophomore Year	
	Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group
Composite GPA	3.05	2.21	3.11	2.09	2.94	1.97
Attrition Rate	0	12% (3)	0	29% (7)	0	42% (10)
Subjects below 2.0 average (includes only those remaining)	0	6	0	8	1	7

TABLE 1.

uage acquisition, a program of reconditioning linguistic behavior functioned in three areas of language production: (1) standardizing and stabilizing the vowel system of English, (2) standardizing and stabilizing the production of English consonants, consonant clusters, and syllables, (3) reconditioning, by the use of pattern practice techniques, faculty grammatical habits, including the faulty use of derivational and inflectional morphemes.

The degree of intensity of the drill varied according to the level of competency of individual students. A series of tape recorded materials was prepared for use in the laboratory that would allow all of the students to progress at their own speeds.

3. Courses in oral interpretation of literature and reader's theatre were scheduled and public performances programmed and prepared for. Daily rehearsals were designed to teach sensitivity to language and emphasis, rhythms, and voice and diction. Rehearsals were also expected to focus on the communication of meaning generated in the literature read so that the relationship between language and messages could be strengthened. Selections began with very easy Standard English selections and dialectal material familiar to the students and progressed to more difficult and sophisticated pieces.

4. Standard programmed and stachistoscopic techniques were used to improve reading speeds to a minimum of 400 words per minute and comprehension to the eightieth percentile.

5. In the Speech Communication courses, human relations techniques were used to stimulate verbalization while teaching goal setting, decision making, and problem solving skills. Long range goal setting for each individual student was one focus of this training. The overall objective concentrated on consciousness raising and confidence building. Daily sessions were also designed to help students develop personal acceptance of and confidence in educational tasks.

6. Carefully arranged materials sets were developed by the project director for listening training. The sets were programmed and graduated to take students to a minimum standard of sixty percent retention of standard college vocabulary materials presented at a normal 120-150 words per minute.

7. In the public speaking courses where topics were carefully coordinated with English theme topics, students were taught content research, organization of materials, use of evidence and argument, and skills of oral presentation.

8. Relationships between systematic thinking, research, and communication were emphasized in the group methods course as well as the expected interpersonal communication skills and group problem solving techniques.

9. Non-verbal communicative and interpretative skills were taught with constant focus on their application to college classroom settings.

An important feature of the instu ctional program is the cross application of activity. Students were discussing, writing about, reading about, speaking about, and typing up reports on topics that were the same or similar from course to course and often related closely to their personal development. Faculty met weekly to co-ordinate assignments.

In the pilot year of the project, the University of Southern Mississippi operated under a term calendar that awarded semester credit hours on a quarter schedule. The normal load for a student was twelve to fourteen hours per quarter and students in the project composed the entire load in communication skills courses for their first two quarters in the University. Students registered for English Composition, Oral Communication, Oral Interpretation of Literature, Reading, and Personal Assessment in the first quarter. Oral Communication included a one hour per week voice and diction laboratory. In the second term students registered for Discussion and Group Leadership, English Composition, Voice and Diction, and Reader's Theatre. They also attended a reading laboratory for one hour per week. Faculty for these courses held weekly meetings to co-ordinate instruction and review student progress. In this manner, the students concentrated the first six months of their University career totally on the development of communication skills.

Expected Outcomes of the Pilot Project

The aim of this project was to assimilate students after the age of separation from family and native environment and give them standard English reading, writing, speaking, and listening skills, help them acquire content(invention) and organizational capabilities, demonstrate the value of polished presentation of written and/or oral work, and aid them to develop personalized long-range goal setting with a high level of confidence.

The project should also provide a la oratory for the testing of new methods of instruction in the communication skills presented. The project recognized ten basic accountabilities at the beginning. In priority order they were, overall college ability, grade performance in subsequent courses of study, personal confidence, speaking skill, reading skill, writing skill, listening skill, student grade expectation, teacher expectation criteria, and standard English diction. These accountabilities are all measured through readministration of the ACT, pre and post test administration of specific discrete instruments such as the Nelson-Denny reading test or the Brown-Carlson Listening Inventory, or by forced-choice evaluation of manuscripts of student writing or tapes of oral performance.

When a project encompasses as much as this one, there is a strong tendency to evaluate only that which looks good. Therefore, these accountabilities in priority order were established in advance to control evaluation. In tabular form, (see Table 1), they represent the list of particular expected outcomes that were established in the proposal. As the project progressed, several other interesting items for evaluation presented themselves and new questions were raised, but these accountabilities continued as the basis for evaluation of the impact of the program.

Acquiring instrumentation for effective evaluation of each of the accountabilities proved a problem. The American College Test[7] was already available and had been used as a pre-admission test on all of the students so its post-training readministration was essential. The Nelson-Denny reading skill test[8] was selected because of its well established form to form test-retest reliability. The Brown-Carlsen listening test was simply the only appropriate test available.[9] There is some indication that practice effect from the first testing may influence Brown-Carlson retesting scores, but previous research has indicated that that will be a constant distortion from experimental to control samples.

Accountabilities (priority order)	Measurements	Achievements (anticipated)
Overall College Ability	ACT	Significantly greater improvement than CG
Student grade performance in subsequent course of study	Transcripts	Significantly better than CG
Student confidence	POI (instrument)	Increase
Speaking skill	Tapes	TTR to .55; Forced choice evaluations to be significantly better than CG
Reading skill	Nelson-Denny	Improve to 400/85
Writing skill	ACT; controlled samples	Improve to equivalent of ACT 21; Choice ratings significantly more than CG
Listening skill	Brown-Carlsen	Improve to 150/60
Student grade expectation	Questionaire	Increase
Teacher expectation criteria	Observe from samples	Improve
Standard English diction	Tapes with transcription to IPA for comparison to standardized models	Acceptable middle American ability

TABLE 1.

The more intangible accountabilities such as personal confidence, grade expectation, teacher expectation, and others are very difficult to measure. Some of the scores taken are more indicators than true measurement of the quality under consideration. The Personal Oreientation Inventory[10] profile has proven extremely useful in counseling students, appears to have strong test-retest reliability, and has shown movement consistent with what the research team believes to be happening in the pilot group. Some other insturments of this type, for instance the FIRO-B,[11] have failed completely to produce useful pretest-posttest information. Other instruments such as the Bass Orientation Inventory[12] will be tried as the project continues.

Ultimately, the true test of the program is the success that the students have in college. The sample from which this experimental group has been drawn historically anticipates forty-to sixty percent attrition and composite grade point averages between 1.8 and 2.3 out of 4.0. Data from equivalent groups in the past five freshman classes indicates that one-third of the students from this group should have dropped out or will be academically suspended at the end of the freshman year. To provide as much control as possible to conclusions drawn about academic success, the control group has been arranged as a group of tightly matched pairs with each member of the first experimental sample. Thus, not only are ACT scores and academic backgrounds matched, but the samples are also exactly matched racially and sexually. Effective pre-testing and post-testing of this fully matched sample has been impossible. Obviously, for example, the drop-outs cannot be post-tested. However, conclusions about the academic success of the experimental group are drawn in close comparisons between the experimental group and the fully matched control group.

Results-Project Access' Pilot Year

At a first level, this project is primarily concerned with the success of its subjects in college after the project. Drawing conclusions about the final success of the students in college will have to wait until the first group graduates. However, results are already generated in two ways. First, the skill of the subjects in the nine priority skills is evaluated and compared when possible to equivalent skill growth by the control group. Second, the continuous record of grades and attrition rates for both groups already reveals substantial differences.

In addition to the instruments mentioned earlier, subjects were pre-tested for writing skills using a free writing assignment and an editing task. Experimental group members only were pre-tested for diction skill, oral reading skill, and self-expression by video-taping a standard materials passaged read aloud and a common speaking assignment. In addition, program evaluation was done at the midpoint and end of the training period with the experimental group. Other pertinent information, such as grade point average anticipated, level of classroom confidence, level of fear of speaking in public, and level of anxiety about having personal expressions evaluated was collected at the beginning, mid-point, and end of training.

Evaluation of the project has several aspects. First, obviously, is comparative analysis of the data from the testing. The end-of-training objective testing report was prepared by the consultant (see Appendix A). Semantic maturity computations on the writing tests were conducted by the project staff. Forced choice comparisons of the free writing pre- and post-tests were conducted using staff members from the University's Department of English who were not involved in the project. Three readers were used and pairings were made pre-test against post-test and experimental against control. As usual in forced-choice grading, pairs were juggled at random so that readers could not tell which papers were pre- or post- or experimental as opposed to control.

Video-tapes of speeches and readings were scored in a forced choice manner in exactly the same way with faculty from the Department of Speech Communication and the Department of Theatre making up the evaluational panels.

At the end of the program, and annually until graduation for each of the subjects, comparative grade point averages and attrition rates for experimental and control groups are examined. The final analysis occurs in the collecting of the subjective evaluations and observations of staff and students in the project. Since an overall educational and attitudinal improvement is the aim of the project, those results will be reported first, followed by a discussion of the measured changes in specific skill levels and personal characteristics.

Educational and Attitudinal Improvement of the Students

Early observations lead only to the conclusion that the program is an academic success. The control group is behaving approximately as historical data predicted that they would; the experimental group is substantially better. At the beginning of the junior year, all of the experimental group is in school[13] while seven (twenty-nine percent) of the control had dropped out at the end of the freshman year and ten (forty-two) percent were gone by the end of the sophomore year. At the end of the freshman year the experimental group had a composite grade point average of 3.11 while the control had 2.09. None of the experimental group were below a 2.0 average and none were in any academic trouble at all, while eight of the control group remaining were below a 2.0 and five were on some sort of academic probation. At the end of the sophomore year, the composite experimental average was 2.94 while the control had dropped below a two point at 1.97. At this point, only one experimental subject has dropped below a two point average.

These general observations are something of a happy surprise. Preliminary analysis of linguistically disadvantaged populations had indicated that

thirty-five to forty percent would actually be able to improve significantly by overcoming language barriers. Some of the discrete instruments that will be reported below indicated that the prognosis has been accurate. Why then, a one hundred percent effectiveness rate for this experimental subjects? For instance, if the ACT has historically been a good indicator of college success for University of Southern Mississippi populations and only thirty-eight percent of the experimental group got better on the ACT, why are the other sixty-two percent who have not improved on the test getting better in college studies? Apparently, the coordinated study of communication skills has more effective and encompassing impact on the student than originally thought.

The model that was presented earlier lays out the basis for the way skill at communication activities is developed.

THINKING (cognitive and affective behavior)
*
*
EXPRESSION (verbalization that is normally oral as well as non-verbal
* cueing)
*
DISCIPLINE (using the rules of good practice for formal speaking and
* writing)
*
ART (fully formed expressions effectively combining all the skills)

All students require development of orderly processes of thought and the spontaneous expression that comes from it. Discipline, instruction in the use of the tools of good writing and speaking, should be developed to the level of the student's ability and need. The art of speaking and writing with power and style any need development only for those students who require it. A college student, of course, requires it.

After careful observation of instruction, throughout this pilot project, the conviction has grown that invention--step one in the model--cannot be taught effectively while formal writing or speaking skills are taught. The teaching of those formal skills of expression requires that the student have

something to say. Invention also appears to be better taught in the Speech class because the first urge to verbalize is oral. However, once the creative barriers to open expression are overcome, formal ability to think clearly functions in both modes simultaneously. The best improvement occurs when speaking and writing are being taught by two different instructors at the same time and the work is closely correlated to force transfer of material or skill between the classes. Inventive, organizational, and argumentative skills appear to cross over most effectively from speaking to writing classes.

Changes in Specific Communication Skills

The general conclusion that was a main subpremise of the entire project appears to be supported by the overall data. When Standard English in all modes is attacked in a concentrated format, the students get better at all of the skills much faster than when communication study is piecemeal. To support this assertion fully, the separate areas of writing, speaking, reading and listening must be examined.

Writing

Writing skill development has been calibrated in two ways. First, growth in syntactic maturity has been calculated for both the experimental and the control group. Second, subjective judgments by a panel of trained evaluators was used to draw systemmatic conclusions about rhetorical quality of experimental and control group writing samples.

Syntactic maturity changes and comparisons are reported in Tables 1 and 2. For the experimental group, all pre-test to post-test comparisons are significant except the one involving an invalidly administered post-test theme. Since that theme was invalidated by administrative error, the final examination for the English training program was substituted for some additional comparisons. Even though invalidated, the post-test theme was utilized in

Syntactic Maturity Growth Rates for Experimental Group

Comparison	Difference	*Growth Rate words/T/year	Times Normal	T Value	Significance .15 accepted
1 pre-test theme to final examination	2.16	4.32	14.4	3.34	.003
2 pre-test theme to post-test theme	-.649	INVALID			
3 pre-test rewrite to post-test rewrite	1.79	3.58	11.93	3.62	.001
4 pre-test to post-test combined average (2+3)	.57	1.14	3.8	1.76	.091
5 all pre-test to all post-test combined average	1.42	2.84	9.47	4.27	.0001
6 post-test rewrite plus final examination	1.98	3.96	13.2	4.54	.0001

*Normal growth rates are anticipated at .3 words/T/year.

TABLE 2.

Syntactic Maturity Growth Rates for Control Group

Comparison	Difference	*Growth Rate words/T/year	Times Normal	T Value	Significance .15 accepted
1	*NO TEST				
2	.61	1.22	4.06	.59	.563
3	.65	1.30	4.33	.86	.401
4	.63	1.26	4.20	.88	.390
5	*NO TEST				
6	*NO TEST				

Data for final examination for control group was not available, therefore comparisons 1 and 6 were not possible.

*Normal growth is anticipated at .3 words/T/year

TABLE 3.

the combination comparisons four, five, and six in Table 1. The influence of that invalidity is particularly observable in comparison four. In all of these comparisons, the experimental group grew in syntactic maturity from approximately four times normal growth rates to about fourteen and one-half times normal.[14] In the overall comparison combining all data, the growth rate was thirteen times normal. Significance levels range from .091 to .0001. Growth rates in the combined comparisons were extremely significant.

When this writing skill growth is compared to the control group the conclusions that the experimental group has improved writing skill at extraordinary rates becomes even more powerful. No comparison indicated growth for this group at more than four times normal and all were insignificant with scores ranging from .139 to .56. Examining individual score patterns among the control group reveals that the movement that did occur happened in individuals who registered for English and Speech courses on their own. If those are removed from the computation, growth occurs at .33 words per T unit per year or right on the normal anticipated rate.

All of the college students investigated here improved in writing skill. Those who took English and Speech courses improved at a faster rate than those who did not. Those who were enrolled in the experimental program improved at a much more rapid rate than the others. Only the experimental group improved at a rate demonstrated significant.

For examination of a larger scope of rhetorical results for subject writers, three readers read papers in pairs pre-test against post-test with the order randomized and the same papers were then paired against the match in the control group for comparison.

Two problems weaken these results: attrition for the control group removed nine , probably the weakest academically, of the pre-selected pairs before time for post-testing and the previously described test administrator error weakened the post-test themes of the experimental group.

Despite these two strong influences against the experimental group, seventy-three percent of the experimental group were better writers than the pairs at the end of the program and fifty-six percent of those had improved at a more rapid rate. If a lower rating for the post-test theme is assumed in those vacant places where academic attrition had reduced the control group, then an impressive eighty-three percent of the experimental group are better than their control group peers and seventy-one percent of those got better at a faster rate than the control. Significance figures are not available for these data until continued experimentation increases the size of the sample and improves test administration.

Final conclusions about writing skills for those students in the pilot program are evident. They became better writers at a much more rapid rate than the control group and they achieved a higher level of basic skill.

Speaking

Speaking skill development in the experimental group was primarily measured using pre-test and post-test videotapes of a common speaking assignment and a common oral reading. Since invention was one area for examination the speaking assignment was made in such a way that content could change from pre-test to post-test. Students were assigned a three minute speech in which they were to describe a significant experience that had occurred in their lives and relate it to the audience in such a way that the learning experience would become meaningful to them. For the post-test students were instructed to use a different experience for the same assignment. Tapes were transcribed and transcripts were error coded so that frequency counts could be made of all errors from Standard Oral English diction. The tapes themselves were evaluated by a panel of Speech communication faculty using the same forced-choice format that had been used for the paper readers.

These two techniques provide clear evidence of improvement.

For the Standard English oral error tabulations, representative segments of two minutes duration were tabulated. Two students failed to provide an adequate sample for analysis so a final group of twenty-two had pre- and post-test speeches error tabulated from tapes and marked on manuscripts that had been made for the purpose (see table four for error list). Seven of the errors tabulated were significantly (.05 or better) improved from pre-test to post-test. Four were significantly worse and the remainder changed insignificantly.

The error tabulations become more interesting in light of the other evaluations. All subject were considered better on the post-test than the pre-test by the panel. Five were 2-1 votes and the rest were unanimous. In fifteen cases, the overall rankings showed a change of more than five on a scale from one to ten. These results indicated that the students might be dealing in more difficult linguistic tasks with the post-test and explain some of the lack of improvement on diction errors. An increase in Type Token Ratios from pre-test to post-test from a mean of .29 to a mean of .58 (.001 level of confidence) corroborates that assumption.

One other observation on these tests provokes interest. Raters indicated on nineteen of twenty-two pre-test sheets that subjects were "stiff," "over formal," or "reading awkwardly from notes". On post-tests, all but two were much improved in "spontaneity", "confidence", or "general state of being at ease with the audience". Such errors as ommission of "function words" would naturally increase as the speaker becomes more confident and more oral in his presentation.

The overall, post-evaluation, conclusion of the judges was that the students appeared to have become rhetorically calm and confident during the project. They were also generally thought to have strengthened the

Oral Language Errors
Pre-test to Post-test

	Error	% of Change	
1.	n for ŋ	-10	
2.	I for ɛ	40	
3.	t for θ	19	Substitutions
4.	f for θ	-21	
5.	d for ʃ	5	
6.	d for ʒ	0	
7.	Syllables	-29	
8.	Final Consonants	86	
9.	Initial Consonants	42	Ommissions
10.	Medial Consonants	-60	
11.	Function Words	-100	
12.	Lowering, Backing, or Centralizing	52.2	Faulty Vowels
13.	Monothongizing	40	
14.	Dipthongizing	23	
15.	Hyperurbanism	8	
16.	Misplaced Stress	0	
17.	Added Sounds	8	Miscellaneous
18.	False Analogy	0	
19.	Faulty "s" Articulation	-5	
20.	Metathesis	0	

Table 4.

impression that they made as students who were prepared to speak and polished in their presentation.

Reading

Reading improvement for the experimental subjects in the first group proved a disappointment. While the group showed fair gains in reading skill and those gains were significantly greater than those of the control group, the goals established at the beginning of the program were not met.

The Nelson-Denny Reading Test measures three aspects of reading: Vocabulary, Comprehension, and Reading Rate. The experimental group gained at a significantly greater rate than the control group on two of the three aspects (see Table 3 attached to Appendix). In vocabulary development, the experimental group gained at a rate just under eight times greater than that of the control group. The reading rate of the experimental group moved from 206 words per minute to 326 words per minute while the control group moved only from 193 to 254. The experimental subjects improved at double the rate of the control while their comprehension rates improved only slightly more.

While these numbers represent good improvement for the subjects, they are some distance from the projected goals of the program. Close analysis of the reading activities in the pilot program reveals a possible source of the problem and a possible solution. Interim testing at the end of the reading course after the first quarter showed progress at that point in rate and vocabulary to be negligible and the comprehension level to have dropped. Improvement started as soon as the laboratory activity began to apply reading development to real reading problems that the students actually faced in textbooks that they were assigned. Almost all of the growth occurred in this second term when the reading work was better coordinated with the other communication studies.

As a result of this discovery, the second year of the program abandoned

the reading course and adopted a one credit all year laboratory for learning reading. Early data from the second year indicates reading rates at a mean of 425 words per minute and comprehension levels at about the sixty-eighth percentile. In addition, staff judgements indicate that the reading work is making a real contribution to what is being done in the other classes.

Listening

The Brown-Carlson listening test scores indicate only a two point gain for the experimental group over a one point gain for the control (see Appendix Table 4). This failure to gain in listening skill for the whole group is a big disappointment and listening training will receive much more attention in the subsequent years of the program.

However, increases did occur in the group of students that was set aside as substantial gainers on the ACT. This group gained a mean of 14.25 on the Brown-Carlson compared to a mean of 1.23 for the ACT gainers among the control group (.001 level of confidence).

In addition to some new listening experiences and training techniques, the project will experiment with the new Jones-Mohr Listening test in the future since the Brown- Carlson is not very satisfactory.

Conclusion

After studying the pilot data for almost a year and operating the program on a much larger scale during that time, a number of general conclusions can be supported by the pilot data and the experiences of the staff and students in the project. The conclusions can be expressed in terms of grades and attrition, writing skills, speaking skill, reading skill, personal confidence and growth, and overall college potential.

The Project Access experimental group is making substantially better grades than the control group and they stay in school longer. Having all

of them still in college is an important achievement for this group of "high risk" students. A mean grade point average more than eight tenths of a point better than the control group after one-third of the worst control group members have left is also very strong indication that the project is improving the academic success of its students.

Students in the experimental group write better than the control group at the end of the program. Further, when comparisons were also made to other students who were enrolled in English and Speech courses at the same time as an additional control comparison, they write better than those also.

Since no control group comparison data existed, students in the project were compared only to themselves in speaking skill. Their improvement in Standard English Diction and regular speaking skill indicates strong support for the benefit of the project.

Reading skills for the students in the program are improving significantly and carry the promise for greater improvement when the reading training is consistent with the rest of the project.

Student feedback and faculty observation of the experimental group recorded indications of a strong growth in personal confidence throughout the program. As one example, in the initial interview, all the subjects said that they feared speaking in public; seventeen of the twenty-four selected "speaking in public" as the "most feared' item from a list that included "death," "dread disease," and "failure in school or work." Four months into the project, only eleven indicated that they feared speaking in public and none labeled it "most feared." Another indication of this growth was the result of the Personal Orientation Inventory. When the test was administered before and after to both experimental and control groups, only one scale showed significantly greater gains for the experimental subjects. The self actualization scale was significantly greater to the .05 level of confidence indicating strong personal growth in the subjects (see Appendix Table 5).

The first key indicator of changed overall college prospect for these students comes from analysis of readministration of the ACT(see Table 2 in the Appendix). While all the other scores, including the composite, went down, the English subscore increased significantly. In fact, if the equivalency comparison is changed from thirteenth grade to twelfth grade like the original pre-test scores, the English experimental group mean improves from 17.2 to 22.7 while the control goes from 17.9 to 19.1. Another interesting conclusion comes from the observation that the significant gainers showed an increase of 5.7 in mean composite scores.

The students in Project Access are clearly better college students that they would have been without being in the program. However, as is natural in any program that tries to encompass as much as this one, a great many questions remain unanswered. For instance, is what is done in the communication courses most important or is scheduling them all together and at the beginning of the college career having the greater effect? Why are all of the students doing so much better when predictive data and our objective post-tests indicated that only thirty-eight percent really are better? There also remain the massive questions of individual effects on discrete skills by the various parts of the program; and, the limitless question as to whether some other kind of training or course might not do better at what the project tries to do. Nontheless, and the statement is made without reservation or apology, Project Access has demonstrated that training in Speech Communication at the beginning of the college career combined with other related communication skill studies, significantly improves the college prospects of high risk students.

NOTES

[1]Frank Reissman, The Culturally Deprived Child (New York: Harper and Row, 1962), p.viii.

[2]The Education Almanac (Washington, D.C: National Education Association, 1976) reported on a number of special programs that had been attempted as a means of keeping the disadvantaged student in college. The general conclusion of the article was that "so far we have failed to make any great inroads into developing this pool of potential new students."

[3]Sidney Weatherford to The Fund for the Improvement of Postsecondary Education, January 15, 1977. Weatherford is the Director of the Bureau of Institutional Research at the University of Southern Mississippi and was writing in support of the project.

[4]Weatherford.

[5]While we assume all responsibility for this ordering, the notion that something occurred prior to the discipline of grammar in the language learning process really originated in the mid-nineteenth century and has been discussed extensively be psychologists and pragmatic philosophers such as C.S. Peirce and Charles Morris. For a modern discussion of the relationship of all this to language learning see William F. White, Tactics for Teaching the Disadvantaged (New York: McGraw-Hill Book Company, 1971), pp. 9-13.

[6]Frank O'Hare, Sentence Combining (Washington, D.C: National Council of Teachers of English, 1972), p.viii.

[7]"The ACT Assessment", (Iowa City: American College Training Program, 1978).

[8]James I. Brown, M.J. Nelson, and E.C. Denny, The Nelson Denny Reading Test (New York: Houghton Mifflin Co., 1962). See Oscar K. Burus (Ed.), The Eighth Mental Measurements Yearbook (Highland Park, N.J: The Gryphon Press, 1978), pp. 734-6 for a full discussion of the Nelson-Denny forms and their test-retest reliability.

[9]Burus, p. 993.

[10]Everett Shostrom, Personal Orientation Inventory (San Diego: Educational and Industrial Testing Service, 1966).

[11]William C. Schutz and Marilyn Wood, Fundamental Interpersonal Relations Orientation Behavior (Palo Alto, Cal: Consulting Psychologists' Press, Inc., 1977).

[12]Bernard Bass, The Orientation Inventory (Palo Alto, Cal: Consulting Psychologists Press, Inc., 1977.)

[13]Five of the twenty-four students are no longer at the University of Southern Mississippi. One was transferred to the Medical Technology curriculum in the University Medical Center in Jackson, one to engineering school, and three to schools closer home in order to become commuters as a response to tuition increases and gasoline price increases.

[14]Frank O'Hare points out in his research with sentence combining and reports in the NCTE monograph on the subject that the normal syntactic maturity growth rate established in several studies encompassing large numbers of subjects is .3 words per "T" unit per year. Since the bulk of these studies use the "aluminum" editing passage to do this calibration, Project Access uses it also in conjunction with the free writing "theme" assignment.

APPENDIX A

"Pilot Project to Examine the Impact of Concentrated Pre-College Languate Skill Development for Educationally Disadvantaged Students"

PRE AND POST TEST EVALUATION OF THE PROJECT

In order to evaluate this project a pre and post evaluation design was employed. The subjects for this study were entering freshmen and were selected and assigned to the experimental and control groups based on pre-determined criterion.

Subjects: A total of 24 students in the experimental group and 22 students in the control group completed the pre-test phase of the evaluation. Of these, all 24 students in the experimental and 18 of the 22 students in the control group completed the post test phase of the evaluation. The number of subjects participating in the project are separated by sex in Table 1, with males making up 42% and females 58% of the experimental group. In the control group, 39% were males and 61% were females. Only those subjects who completed both pre and post test evaluations were used in the analysis of the data.

Statistical Procudure: In order to determine the change over the period from pre to post in the groups and between the groups, the scores of the various instruments were subjected to an analysis of covariance technique. Additional the group means and standard deviations are shown for each instrument

Results from the Various Instruments (pre - post):

A. American College Testing Program (ACT): The ACT is used by the University of Southern Mississippi as an admission requirement and is designed to measure academic aptitudes. There are five scores from this instrument: English, Mathematics, Social Science, Natural Science, and a Composite Score.

Although no significant differences between the groups was obtained on the ACT scores, (Table 2) there does appear to be some trends that should be noted. On the English subtest, the experimental group experienced the greater movement. The group mean for the pre test was lower than the control group's mean, but the experimental group's mean on the post test was higher than the control's.

On the other hand, the experimental group's mean decreased on the math subtest. Perhaps this is due to students in the experimental group taking

fewer math courses. This same trend is evident in the Natural Science subtest where the control showed a gain while the experimental group showed a drop. Again, fewer of the Natural Science courses were taken by the experimental group than by the control group.

On the Social Science subtest both groups experienced a drop from pre to post test. However, it will be noted that the drop for the experimental group is less than for the control group.

The over-all composite mean score for the experimental group dropped slightly, whereas the control group experienced a slight gain. This would be expected since the experimental group experienced a decrease in pre and post test means on three of the four subtests, while the control group increased on the pre and post test scores on three of the four subtests.

B. The Nelson-Denny Reading Test: The Nelson-Denny Reading Test is designed to measure three aspects of reading achievement: Vocabulary, Comprehension, and Reading Rate. (Table 3)

On the Nelson-Denny, the experimental group showed significantly greater gains on two of the three subtests and showed greater gains on the third sub-test than did the control group. Table 3 indicates that the experimental group with a pre group mean of 29.00 and a post group mean of 39.542, experienced a significantly greater gain on the Vocabulary subtest than did the control group with a pre group mean of 31 and a post group mean of 32.333. This was significant beyond the .001 confidence level. Also, the experimental group increased its Reading Rate from 205.708 to 326.083 while the control groups increase was from 192.556 to 254.167. This was significant beyond the .01 level of confidence. The third subtest, Comprehension, was not significantly different between groups from pre to post, however, it will be noted that the gain made by the experimental group was greater than that made by the control group.

C. The Brown-Carlson Listening Test: This test is designed to measure the skill of accurate listening and yields one score only. On this instrument, there was not a significant difference between the two groups from pre to post. Both groups experienced some gain in the mean score, with the experimental group showing a greater increase. (Table 4)

D. Personal Orientation Inventory: The Personal Orientation Inventory is a measure of personality which seeks to look at a subject's perceptions of her/himself and her/his environment.

The only factor which was significant on this scale was the Self Actualization Scale. The .05 level of confidence was satisfied that the experimental group made significantly greater gains than the control group on this scale. This scale is designed to measure the degree to which a person "Holds values of self actualizing people". (Table 5)

Additionally, a number of other factors of the POI approached significance. These factors were within the range of .05 to .10 level of confidence.

a. Both groups increased their scores on the Self Regard scale with the experimental group making a greater increase than the control group. This was at the .08 level of confidence and indicated that there was a trend on the part of the experimental group toward having "high self-worth".

b. On the Nature of Man Scale the experimental group increased its score while the control group showed a decrease. The experimental group moved toward the end of the scale "Sees man as essentially good". This was at the .09 level of confidence.

c. A .09 level of confidence was obtained on the Acceptance of Agression scale between the two groups over the period from pre to post testing. In this case the experimental and the control group both made higher scores, however, the control group increased its score more than the experimental group. This would indicate that the control group showed a greated trend toward the acceptance of "feeling of anger or aggression".

d. Both groups showed a positive gain on the Spontaneity scale of the POI with the experimental group showing a greater increase than the control group. This gain approached significance with a confidence level of .10.

On several other scales of the POI there was also change that was not at a significant level of confidence or at a level which approached significance. These trends are reported below:

a. The experimental group showed a positive gain while the

control group showed a loss on the foloowing scales: Time Competent (Lives in the present), feeling Reactivity (Sensitive to own needs and feelings), and Synergy (Sees opposites of life as meaningfully related).

b. Both groups made positive gains on three different scales: Inner Directed (Independent, self-supportive), Self Acceptance (Accepting of self in spite of weaknesses), and Capacity for Intimate Contact (Has warm interpersonal relationships).

c. On one scale the experimental group showed a positive gain while the control group remained at the same level between pre and post testing. This scale was the Existentiality scale which indicates that the experimental group was moving toward being more "Flexible in application of values".

From the POI, it will be noted that with the exception of the Acceptance of Aggression scale the experimental group made positive movement on all scales, while the control group moved in a negative direction on two of the scales and remained at the same level on one scale. The results of the POI suggest that the experimental group showed definite movement in a self-actualizing manner during the period between the pre and post testing.

E. The FRIO-B Scales: The FRIO-B Scales are designed to measure interpersonal relationship orientation and behavior. The test of significance between the two groups from pre to post yielded four factors on the FRIO-B which were beyond the .001 level of confidence. (Table 6)

The Sum of Inclusion Scores showed movement by both groups to a smaller number with the experimental group making the larger movement. This would indicate that members of the experimental groups showed less inclusion behavior. This encompassed both Expressed Behavior (I make efforts to include other people in my activities and to get them to include me in theirs) and Wanted Behavior (I want other people to include me in their activities and to invite me to belong). Apparently, the experimental group was less concerned with inclusion at post test than they were at the pre test and were less concerned than was the control group.

The Sum of Control showed movement by both groups in the direction on increased need for control, with the experimental group making the larger movement. Apparently, the experimental group members felt at post test time

that there was a greater need for both Expressed Control (I try to exert control and influence over things. I take charge of things and tell other people what to do) and Wanted Control Behavior (I want others to control and influence. I want other people to tell me what to do). This would tend to indicate that the experimental group was expressing an attitude of more assertive behavior than at the pretest period.

The Sum of Affection scale of the FIRO-B was significant beyond the .0001 level of confidence with both the experimental and control groups moving to less perceived need for affection. The experimental group showed more movement in the direction of needing less affection than did the control group. This movement was apparent in both Expressed Affection (I make efforts to become close to people. I express friendly and affectionate feelings and try to be personal and intimate) and Wanted Affection (I want others to express friendly and affectionate feelings toward me and to try to become close to me). From these results it appears that the experimental group does not have the strong need for affection as expressed during the pretest and that these needs are being more adequately met than at pretest.

Three other scores on the FIRO-B showed movements which approached significance. These levels of significance for these scores ranged between .005 and .10 level of confidence.

The Difference in Affection scores approached significance at the .07 level of confidence. There was greater movement by the experimental than the control group, although both groups moved in a positive manner. This would indicate that the experimental group is expressing more than wanting affection.

The Sum of Expressed Behavior was significant at the .08 level of confidence. In both groups these scores showed an increase in a negative direction, with the experimental groups showing the greater movement.

In a like manner, the Sum of Wanted Behavior showed a similar decrease between the pre and post scores for both groups. This was significant at the .07 level of confidence. Again, the experimental group showed a greater movement in a negative direction than the control group.

Both the Sum of Expressed and Wanted Behavior tended to indicate that the experimental group perceived that there were fewer interpersonal needs during the post test than during the pretest.

Three other scores of the FIRO-B showed some signs of movement which might suggest trends.

a. The Difference in the Inclusion scores moved for both groups in a positive direction, with the experimental group moving more than the control group. This would indicate that the experimental group may be expressing behavior more freely and therefore may have less need for the wanted behavior with regard to inclusion when compared to the control group.

b. The Difference in the Control scores for both groups was in a negative direction to the same degree.

c. The Total Difference Scores for the FIRO-B scale showed that both groups were moving in a positive direction with the experimental group showing the greater degree of movement. This would tend to indicate that the experimental group is moving toward a greater satisfaction with their interpersonal relationships.

Summary: From the data presented herewith, it is indicated that the following appear to be taking place with regard to the two groups between the pre and post test:

1. There is little or no change in the overall ACT score of the students.
2. There is a significant gain in the reading ability of students in the experimental group. This is particularly true with regard to vocabulary and reading rate.
3. There is little or not change in the listening ability of the two groups.
4. There is a trend toward greater self-actualization behavior on the PIO for the experimental group when compared to the control group.
5. There is a trend toward greater individual autonomy among students in the experimental group than for those in the control group. Interpersonal relationship skills seem to be satisfied to a higher degree by these students than by those in the control group.

Table I

Research Subjects

	Experimental	Control
Male	10	7
Female	14	11
Total	24	18

Table 2

ACT Pre and Post Scores

Group Means and Standard Deviations

	English		Math		Social Studies		Natural	Science	Composite	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Experimental	16.458 2.466	19.375 2.796	15.583 3.999	14.208 4.865	18.292 2.731	17.042 5.012	17.958 4.578	17.875 4.176	17.167 1.434	17.083 3.081
Control	16.556 2.266	18.389 3.974	15.111 3.635	15.611 4.152	19.833 4.099	17.000 6.092	17.167 3.371	19.667 5.323	17.278 1.446	17.722 2.621
Significance Level	P=.270939		P=.226144		P=.544727		P=.253321		P=.533123	

Table 3

Nelson-Denny Pre and Post Scores

Group Means and Standard Deviations

	Vocabulary		Comprehension		Reading Rate	
	Pre	Post	Pre	Post	Pre	Post
Experimental	29.000 8.175	39.542 10.320	39.500 6.934	42.750 5.995	205.708 54.694	326.083 73.525
Control	31.000 10.366	32.333 10.791	39.111 5.896	41.778 9.187	192.556 63.569	254.167 75.513
Significance Level	P=.000413		P=.722656		P=.005584	

Table 4

Brown-Carlson Pre and Post Total Sum Scores

Group Means and Standard Deviations

	Total Sum	
	Pre	Post
Experimental	50.667 5.375	52.583 6.110
Control	48.389 5.356	49.444 5.659
Significance Level	P=.318953	

Group Means and Standard Deviations

		Time Comp.		Inner Directed		Self Actual.		Existentiality		Feeling React.		Spontaniety	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Experimental	X	15.333	15.524	78.042	81.458	19.5000	20.458	17.750	18.458	14.542	15.292	11.083	12.375
	SD	2.321	3.341	9.330	7.762	2.677	2.121	3.700	3.651	2.645	2.525	2.344	1.628
Control	X	15.667	15.278	75.167	79.056	19.556	19.000	17.833	17.833	15.556	15.000	11.222	11.444
	SD	2.667	2.422	17.115	5.441	2.713	2.728	3.933	3.775	5.014	2.211	1.583	1.978
Significance Level		P=.645225		P=.629038		P=.047540		P=.510019		P=.688553		P=.099964	

		Self Regard		Self Accept.		Nature-Man		Synergy		Accept.-Aggress.		Int.Contact	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Experimental	X	11.667	12.792	13.625	13.708	11.292	12.125	6.417	6.708	15.875	15.333	16.708	17.208
	SD	1.795	1.581	2.766	3.048	2.031	1.855	.954	1.060	2.635	2.034	3.691	2.915
Control	X	11.556	11.833	13.833	14.222	11.500	11.222	6.611	6.444	15.556	16.444	14.944	16.944
	SD	2.339	1.979	2.522	2.393	1.258	2.439	1.112	.896	3.354	2.409	4.249	3.659
Significance Level		P=.075036		P=.614859		P=.089759		P=.313312		P=.090106		P=.783136	

Table 6

FIRO-B Pre and Post Scores

Group Means and Standard Deviations

	Inclusion:Sum		Control:Sum		Affection: Sum		Inclusion: Diff.		Control:Diff.		Affection: Diff.	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
X	11.875	1.833	4.833	12.542	10.000	1.667	-.042	1.417	-1.250	-1.958	-1.250	.667
perimental SD	4.790	1.972	2.896	3.947	4.805	2.173	2.441	1.382	2.890	3.769	2.203	2.211
X	9.222	7.667	3.944	6.667	9.944	5.596	.556	1.444	-.722	1.222	-1.056	-.500
ntrol SD	4.422	6.164	3.734	4.570	5.307	5.596	2.813	2.587	2.129	2.462	1.810	2.007
gnificance vel	P=.000410		P=.000259		P=.000059		P=.771157		P=.601682		P=.067557	

	Expressed: Sum		Wanted: Sum		Total Sum		Total Diff.	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
X	12.042	8.083	14.667	8.375	26.708	16.042	-2.625	.667
perimental SD	5.208	4.329	6.303	3.264	10.601	6.195	4.617	5.006
X	11.111	10.889	12.444	11.167	23.556	22.056	-1.222	-.178
trol SD	4.108	5.394	6.431	6.300	10.090	11.394	3.750	2.785
nificance el	P=.084275		P=.071198		P=.040370		P=.563937	